That which is claimed:

1. A continuous oven for dynamically heating a food product having an outer surface and an interior, the oven comprising:

an enclosure with a first heating zone and a second heating zone;

a conveyor configured to convey the product from the first heating zone to the second heating zone;

at least one surface-browning infrared emitter adjacent the first heating zone of the conveyor and configured to provide a first electromagnetic radiation profile to the product in the first heating zone that is adapted to evaporate surface moisture to produce a crust matrix on the outer surface of the product; and

at least one interior-heating infrared emitter adjacent the second heating zone of the conveyor and configured to provide a second electromagnetic radiation profile to the product in the second heating zone that is different from the first electromagnetic radiation profile, wherein the second electromagnetic radiation profile is adapted to heat the interior of the product.

2. The oven of Claim 1, wherein the first electromagnetic radiation profile provides a greater heat flux to the product than the second electromagnetic radiation profile, wherein the first and second electromagnetic radiation profiles together approximates a heat flux characteristic of an immersion frying process.

3. The oven of Claim 1, wherein a first distance between surface-browning infrared emitter and the conveyor is generally less than a second distance between the interior-heating infrared emitter and the conveyor.

4. The oven of Claim 3, wherein the surface-browning infrared emitter and the interior-heating infrared emitter have substantially the same power level.

5. The oven of Claim 1, wherein the at least one surface-browning infrared emitter comprises a plurality of spaced apart surface-browning infrared emitters and wherein the at least one interior-heating infrared emitter comprises a plurality of spaced apart interior-heating infrared emitters, wherein a distance between successive ones of the plurality of surface-browning infrared emitters is generally shorter than a distance between successive

ones of the plurality of interior-heating infrared emitters.

6. The oven of Claim 1, further comprising an electromagnetic radiation profile controller configured to control a power level for the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter such that the power level of the at least one surface-browning emitter is greater than the power level of the at least one interior-heating emitter.

7. The oven of Claim 1, wherein the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter comprise a first set of infrared emitters on one side of the conveyor and a second set of emitters on an opposing side of the conveyor.

8. The oven of Claim 1, wherein the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter include quartz halogen emitters.

9. The oven of Claim 1, wherein the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter also emit electromagnetic radiation in the visible to infrared wavelength range.

10. The oven of Claim 1, wherein the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter emit electromagnetic radiation having a wavelength from between about 0.4μm to about 300μm.

11. The oven of Claim 1, wherein the first electromagnetic radiation profile includes generally longer wavelengths than the second electromagnetic radiation profile.

12. The oven of Claim 1, wherein the at least one surface-browning infrared emitter and the at least one interior-heating infrared emitter comprise a plurality of spaced apart infrared emitters, and wherein the electromagnetic radiation from successive ones of the plurality of infrared emitters generally decreases in wavelength.

13. The oven of Claim 1, wherein the at least one surface-browning infrared

emitter and the at least one interior-heating infrared emitter comprises a plurality of spaced apart infrared emitters, wherein the plurality of infrared emitters are configured to approximate a heat flux transfer as the product is transferred from the first heating zone to the second heating zone of the conveyor that approximates heat flux during immersion frying.

14. The oven of Claim 1, wherein the at least one surface-browning infrared emitter is configured to provide a heat flux to the product in the first heating zone of the conveyor that increases to above about 1.5 W/cm^2.

15. The oven of Claim 1, further comprising a controller configured to control the speed of the conveyor.

16. The oven of Claim 1, wherein a distance between the at least one surface-browning infrared emitter or the at least one interior heating emitter and the conveyor is between about 1.5 inches and about 3.0 inches.

17. A method of dynamically heating a food product in an oven, the product comprising an exterior surface and an interior, the method comprising:

exposing the product to radiation having a first electromagnetic radiation profile adapted to produce a crust matrix on the surface of the product; and then

exposing the product to radiation having a second electromagnetic radiation profile that is different from the first electromagnetic radiation profile and adapted to heat the interior of the product.

18. The method of Claim 17, wherein the first electromagnetic radiation profile has an intensity that is greater than the second electromagnetic radiation profile.

19. The method of Claim 17, wherein the first electromagnetic radiation profile provides a heat flux to the product that is greater than about 1.5 W/cm^2 to provide a crust matrix on the surface of the product.

20. The method of Claim 17, wherein the first electromagnetic radiation profile comprises longer wavelength radiation than the second electromagnetic radiation profile.

21. The method of Claim 17, wherein the first electromagnetic radiation profile includes radiation having a wavelength between about 1.4 and 100μm.

22. The method of Claim 17, wherein the second electromagnetic radiation profile includes radiation having a wavelength between about 0.4 and 1.4 μm.

23. The method of Claim 17, wherein the first electromagnetic radiation profile and the second electromagnetic radiation profile together approximates an immersion frying heat flux.

24. The method of Claim 17, further comprising:

measuring the heat flux to the product during immersion frying; and

selecting the first and the second electromagnetic radiation profile based on the measured heat flux to the product during immersion frying.

25. The method of Claim 17, wherein exposing the product to the first electromagnetic radiation profile comprises exposing the product to an infrared emitter comprising a quartz halogen emitter.

26. The method of Claim 17, wherein exposing the product to the first electromagnetic radiation profile has a duration of less than about 60 seconds.

27. The method of Claim 17, further comprising conveying the product on a continuously advancing conveyor to expose the product to the first electromagnetic radiation profile and the second electromagnetic radiation profile.

28. The method of Claim 17, wherein exposing the product to the first electromagnetic radiation profile and exposing the product to the second electromagnetic radiation profile comprises placing the product on the conveyor, wherein the oven includes a plurality of infrared emitters configured to produce a variable heat flux at successive points along the conveyor approximating a heat flux of an immersion frying process.

29. The method of Claim 28, wherein the variable heat flux increases to above about 2.5 W/cm^2 in a duration of less than about 50 seconds.

30. The method of Claim 17, wherein exposing the product to the first electromagnetic radiation profile and exposing the product to the second electromagnetic radiation profile are carried out in a batch process.

31. The method of Claim 17, wherein the product before exposure to radiation is a par-fried potato piece.

32. The method of Claim 17, wherein the product before exposure to radiation is a raw potato piece having oil on the surface.

33. The method of Claim 17, wherein the product before exposure to radiation is a fried or par-fried breaded muscle tissue product.

34. The method of Claim 17, wherein the product before exposure to radiation is a par-fried yeast-risen or cake doughnut.

35. The method of Claim 17, wherein the product before exposure to radiation is at least partly frozen, the method further comprising:

exposing the product to a heat flux before the step of exposing the product to radiation having a first electromagnetic radiation profile, wherein the heat flux is adapted to defrost the product.

36. The method of Claim 35, the step of exposing the product to a heat flux comprises exposing the product to a heat flux of between about 0.1 and 1 W/cm^2

37. An oven for dynamically heating a food product, the product comprising an exterior surface and an interior, the oven comprising:

at least one infrared emitter;

a heating zone adjacent the at least one infrared emitter, the at least one infrared emitter configured to emit electromagnetic radiation in the heating zone; and

a controller in communication with the at least one infrared emitter and configured to control the electromagnetic radiation from the at least one infrared emitter to provide a first electromagnetic radiation profile adapted to produce a crust matrix on the surface of the product and then to provide a second electromagnetic radiation profile that is different from the first electromagnetic radiation profile and adapted to heat an interior of the product.

38. The oven of Claim 37, wherein the controller further comprises a positioning portion connected to the at least one infrared emitter, the positioning portion configured to move the at least one infrared emitter with respect to the heating zone, wherein the controller is configured to move the at least one infrared emitter to a first position to provide the first electromagnetic radiation profile and to a second position to provide the second electromagnetic radiation profile.

39. The oven of Claim 37, wherein the controller is configured to increase a power level to the at least one infrared emitter to provide the first electromagnetic radiation profile and to decrease the power level to the at least one infrared emitter to provide the second electromagnetic radiation profile.

40. The oven of Claim 39, wherein the at least one infrared emitter is stationary.